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Linginicer. M. Oriatriani				Page 1 01		
Part 1. PART DESCRIPTION						
Part Type: Test Coupons		Basic Shape:	Flat			
Surface Coatings/Texture: Profile	ed	Overall Dimensions (mm): 7.75 x 3.75 x 0.37				
Part 2. MATERIAL DESCRIP	TION					
Material Family: Aluminum		Material Type:	7075-T735	1 per AMS 4078		
Part 3. EQUIPMENT DESCR	IPTION					
Manufacturer: Sic Markin	g	Equipment Ty	pe: Dot Peer	n Marker		
Model Number: C-151ZA		Serial Numbe				
Software Revision: e6-4a04						
Part 4. MARKING PARAMET	ERS					
Stylus Dia (mm): 4		Marking Spee	ed: 0			
Tip Angle: 120°						
Depth of Mark (in)	: 0.002	0.004	0.008	0.012		
Force Level:	3	5	7	8 (2 passes)		
Stylus to Part Gap:	1	1	5	7 (2 passes)		
Marking time (seconds):	18	27	45	120		
Part 5. SYMBOL PARAMETE	RS					
Symbol Type: Data Matrix	ĸ	Number of Ch	naracters: 1	0		
Rows x Columns: 22 x 22		ECC Level:	2	00		
Type: Square		Style:	N	Vormal		
Depth of Mark (in)	: 0.002	0.004	0.008	0.012		
Symbol Size (in):	0.21	0.37	0.67	0.98		
Cell Size (in):	0.010	0.017	0.030	0.045		
Part 6. READER PARAMETE	RS					
Processor: DMx Auto	ID	Camera:	RVSI CM	14000		
Camera Gain: ½ turn CW		Gamma:	1.0, MGC	C, FRM		
Lens Type: Tamron 70	1178	Lens Size:	1:2.8, 501	mm, Ø25.5		
Software Version no.: 1.5.	0.20	Trigger Metho	d: Manual			
Field Mode (Low Density): No		Frame Mode (High Density): Y	es		
Depth (in)	: 0.002	0.004	0.008	0.012		
Aperture Setting:	12	16	16	16		
Extension Tube (mm):	30	15	10	5		

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Focus Setting:			0.8		0.8		3.1		1	.4	
Camera to Targe	et Distance	(mm):	124		180		280		3	99	
Symbol Size (Pi	xels):		376 x	378	381 x :	385	389	x 396	3	378 x 385	
Part 7. LIGHT	ING PARA	AMETE	RS								
Light manufactu	ırer: NER	2			Light t	уре:		DOAL-	-50-LE	D	
Light P/N:	010-	200700			Light (Color:		Red			
Lighting Angle:	Para	llel to pa	art surfa	ice	Filter 7	Гуре:		None			
D	epth of Ma	ırk (in):	0.	002	0.	004		0.008		0.01	2
Lighting Distance	ce (mm):		69		80		80		8	0	
Part 8. DECOI	DING RES	ULTS									
		Nominal Cell Size	Center Offset	Size Offset	Cell Modulation	Border Match	Contrast	Axial Uniformity	Print Growth (X)	Print Growth (Y)	Error Correction
AlA-1	7										
3876939696	0.002	17.3	2.8	3.7	18	96	57	0	-0.09	-0.17	4
9638709263	0.004	17.3	2.3	17.6	22	99	78	0	0.03	0.25	2
4608240041	0.008	17.8	0.9	3.4	80	100	82	0.02	0.11	0.11	0
0306010914	0.012	17.4	0.5	2.2	76	100	83	0	0.08	0	0
A1A-1	8										
2916015960	0.002	17.1	3.7	4.8	40	99	57	0	-0.06	-0.02	11
7540047118	0.004	17.4	0.2	0.0	39	100	70	0	-0.23	-0.21	0
8545507258	0.008	17.7	0.4	1.7	51	100	83	0.02	0.08	0.06	0
0374343981	0.012	17.5	0.4	1.2	71	100	83	0.02	0.09	0	0
A1A-1	9										
8214872322	0.002	17.2	2.3	2.7	43	100	59	0	-0.09	-0.06	3
6249475777	0.004	17.4	0.0	0.0	39	100	71	0	-0.23	-0.20	0
4028524204	0.008	17.9	0.5	3.0	54	100	83	0	0.07	0.03	0
7481103274	0.012	17.5	0.2	1.6	80	100	83	0.02	0.04	0	0
A1A-2	0										
2309883702	0.002	17.3	1.9	4.3	36	100	60	0	-0.08	-0.15	3
0776926648	0.004	17.4	0.9	6.9	23	100	78	0	0.04	0.18	2
3009740725	0.008	17.7	1.0	2.5	44	100	83	0.02	0.14	0.09	0
7538020209	0.012	17.4	0.9	2.9	84	100	81	0.02	0.04	-0.02	0

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Part 9. Symbol Quality Verification

The following image is a screen shot of the RVSI Data Matrix Verifier. This software tool is used to 'grade' the quality of a mark and unlike the standard "AIM Verification" available from other reader companies (which is designed to read paper labels), it provides feedback related to the direct marking of parts on any material. Please see the attached document that explains RVSI Verification more thoroughly.

	1750 TALL 1950 AND 1860 AND 1
Nominal Cell Size	17.5
Center Offsets	
Size Offsel	1.2 [1530%] = 1
% Cell Modulations -	
% Border Match -	100
% Contrast Tree -	83
Axial Unitormity -	0.02
Print Growth	X = 0.09 , Y = 0
Error Correction.	0 (UEC: 1.00)
Overall Grade	(Pass - Custom)
374343981	
E DMx Verifier+ - G:\Ci^	1atrix\Programs\NCMS\Aging Landing Gear Coupons\Aluninum Coupons\Dot Reen\
2 画风景。	9 自己的 6 的第三人称单数 10 人
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Appendix A

Direct Part Mark Verification for Data Matrix Codes

The AIM symbology specification calls out the Data Matrix verification methodology as the measure of: Symbol Contrast; Print Growth; Axial Non-uniformity; and, Unused Error Correction. A final grade of the mark quality will be the lowest grade given in the previously cited categories. The AIM method follows what was done for Bar Code Verification many years ago and has validity where Matrix Codes are applied to labels (essentially we are measuring the label printer quality).

With directly marked parts, this AIM method misses several key measures and will almost always report a final score based on the Symbol Contrast score, which with most direct marks will be very low and meaningless as it is not something we can control (peening a metallic surface seldom adds any contrast). If a company relies exclusively on AIM parameters they will likely fail completely readable marks and accept some marks that will later prove to be unreadable.

To compensate for this shortcoming RVSI developed and offers a custom verification grading method where all the AIM parameters can be chosen (or not, as in the case of Symbol Contrast) as well as many more measurements that are useful for identifying problems common to specific marking methods. This enhanced level of analysis provides what we call diagnostic verification: information that can be used to consistently improve the marks as they are made.

With Ink Jet, Dot Peen and Laser marks (the 3 most often used methods for marking Data Matrix on parts) the two most important aspects to measure are the "normalized" Center Offset and Size Offset values. These measures are made of all the ON cells (those actually marked, vs. the spaces left unmarked) within the borders of the code. The scores are "normalized" because with a Data Matrix code if all cells are shifted the same amount, or are smaller or larger by the same amount, we really don't have to fix anything—most readers will deal with that "scale" change and no marker maintenance is necessary. However, if we have a difference in cell position within the code we have an indication that service is needed (i.e. clogged ink jet nozzles, plugged air pressure filters, worn bushings). The same is true of Size Offset, typically all ON cells of a matrix would be the same size, and a variation in size could indicate, for example, pressure problems on a pin stamp marker and power management or mask problems on a laser.

The addition of these mark analysis parameters, available only on RVSI's verification products, provides effective diagnostics of marking problems. In fact, a number of the leading marking companies are incorporating this technology into their products to guarantee their customer remarkable reliability and consistency in creating good data matrix marks, highlighting service requirements, and identifying corrective actions required to ensure marking excellence. [Note also that RVSI has also developed the only verifier customized to the unique parameters employer by the Aerospace Industry's IAQG in its ATA 2000 Specification.]

RVSI has attacked the identification of parts for traceability and process control as a system problem that requires a system solution. The right marking methods must first be chosen (the SRC has validated over 50 methods of marking parts); the use of Verification after marking to confirm the mark quality is a must (provided the proper measurements are made); application engineering to accommodate the environmental conditions encountered at the read stations, both fixed and hand held, must be taken into consideration (and they should both use the same algorithmic approach to minimize integration); and finally the communication of the data must support the factory environment and traceability needs of the user.

We refer to this system approach as the MVRCsm Methodology (Mark, Verify, Read, and Communicate). It is only available from RVSI.

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Part 1. PART DE	SCRIPTION			la .				
Part Type: Test	Coupons		Basic Shape:	Flat	1			
Surface Coatings/Te	exture: Profiled	l	Overall Dimensions (mm): 7.75 x 3.75 x 0.375					
Part 2. MATERIA	L DESCRIPT	ION			7			
Material Family:	Aluminum		Material Type:	7075-T7351	per AMS 4078			
Part 3. EQUIPME	NT DESCRIP	TION			_			
Marking Company:	Virte	k Laser Syste	ms, Inc.					
Marking Engineer:	Andr	ew Money						
Part 4. MARKING	PARAMETE	RS			2			
Marking Speed:	250 mm/sec		Frequency:	8000 Hz				
Laser Power:	22 amps							
Depth	of Mark (in):	0.002	0.004	0.008	0.012			
Marking Time (seco	nds):	23	58	138	246			
Part 5. SYMBOL	PARAMETER	RS						
Symbol Type:	Data Matrix		Number of Ch	aracters: 10	0			
Rows x Columns:	22 x 22		ECC Level:	20	00			
Type:	Square		Style:	N	ormal			
Symbol Size (in):	0.55		Cell Size (in):	0.	025			
Part 6. READER	PARAMETER	RS						
Processor:	DMx Auto II)	Camera:	RVSI CM	[4000			
Camera Gain:	½ turn CW		Gamma:	1.0, MGC	, FRM			
Lens Type:	Tamron 7011	78	Lens Size:	1:2.8, 50n	nm, Ø25.5			
Software Version no	.: 1.5.0.	20	Trigger Method	i: Manual				
Field Mode (Low De	ensity): No		Frame Mode (F	High Density): Ye	es			
Aperture Setting:	22		Extension Tube	e (mm):	10			
Focus Setting:	1.0		Camera to Targ	get Distance (mm): 237			
Symbol Size (Pixels)): 380 x	379	-	-				
Part 7. LIGHTING	PARAMETE	RS						
Light manufacturer:	NER		Light type:	DOAL-75	-LED			
Light P/N:	010-200500		Light Color:	Red				
Lighting Angle:	Parallel to pa	rt surface	Filter Type:	None				
Lighting Distance (n	nm): 42							

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Part 8. DECO		ULTS								Page	2 01
		Т			Г	Г		Г		T	T
		Nominal Cell Size	Center Offset	Size Offset	Cell Modulation	Border Match	Contrast	Axial Uniformity	Print Growth (X)	Print Growth (Y)	Error
A1A-1	7										
1357924680	0.002	17.2	0.0	0.0	76	100	77	0	0.03	0.02	0
1357924707	0.004	17.2	0.0	0.0	80	100	78	0	0.05	0.05	0
1357924734	0.008	17.2	0.2	0.2	78	100	80	0	0.09	0.07	0
1357924761	0.012	17.2	0.2	0.2	75	100	79	0	0.09	0.06	0
A1A-1	8										
1357924683	0.002	17.2	0.0	0.0	90	100	76	0	0	-0.02	0
1357924710	0.004	17.2	0.0	0.0	90	100	78	0	0.02	0	0
1357924737	0.008	17.2	0.0	0.0	79	100	80	0	0.03	0.02	0
1357924764	0.012	17.2	0.0	0.0	84	100	80	0	0.06	0.04	0
A1A-1	9										
1357924685	0.002	17.2	0.0	0.0	87	100	76	0	0.02	0	0
1357924712	0.004	17.2	0.0	0.0	83	100	78	0	0.06	0.03	0
1357924739	0.008	17.2	0.0	0.0	63	100	78	0	0.14	0.12	0
1357924766	0.012	17.3	0.2	0.7	73	100	77	0	0.14	0.12	0
A1A-2	.0										
1357924687	0.002	17.2	0.0	0.3	90	100	75	0	0	0	0
1357924714	0.004	17.2	0.0	0.0	90	100	76	0	0	0	0
1357924741	0.008	17.3	0.0	0.0	80	100	79	0	0.02	0	0
1357924768	0.012	17.2	0.0	0.0	82	100	78	0	0.04	0	0

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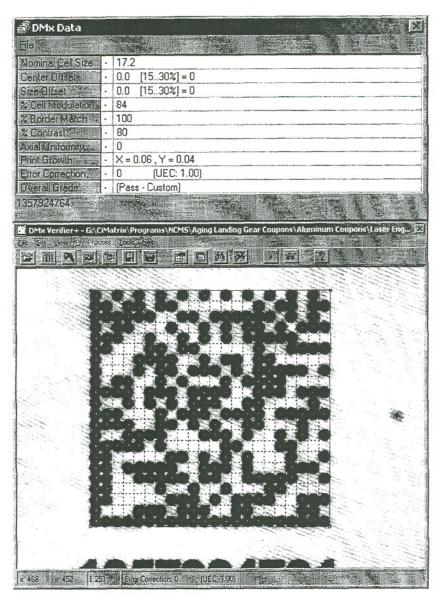
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With Ink Jet, Dot Peen and Laser marks (the 3 most often used methods for marking Data Matrix on parts) the two most important aspects to measure are the "normalized" Center Offset and Size Offset values. These measures are made of all the ON cells (those actually marked. vs. the spaces left unmarked) within the borders of the code. The scores are "normalized" because with a Data Matrix code if all cells are shifted the same amount, or are smaller or larger by the same amount, we really don't have to fix anything—most readers will deal with that "scale" change and no marker maintenance is necessary. However, if we have a difference in cell position within the code we have an indication that service is needed (i.e. clogged ink jet nozzles, plugged air pressure filters, worn bushings). The same is true of Size Offset, typically all ON cells of a matrix would be the same size, and a variation in size could indicate, for example, pressure problems on a pin stamp marker and power management or mask problems on a laser.

The addition of these mark analysis parameters, available only on RVSI's verification products, provides effective diagnostics of marking problems. In fact, a number of the leading marking companies are incorporating this technology into their products to guarantee their customer remarkable reliability and consistency in creating good data matrix marks, highlighting service requirements, and identifying corrective actions required to ensure marking excellence. [Note also that RVSI has also developed the only verifier customized to the unique parameters employer by the Aerospace Industry's IAQG in its ATA 2000 Specification.]

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Part 1. PART DESCRIPTION				
Part Type: Test Coupons		Basic Shape:	Flat	
Surface Coatings/Texture: Profile	d	Overall Dimer		7.75 x 3.75 x 0.375
Part 2. MATERIAL DESCRIPT				
		T		
Material Family: Aluminum		Material Type:	7075-T735	1 per AMS 4078
Part 3. EQUIPMENT DESCRI	PTION			
Manufacturer: Servo Produ	cts Co.	Equipment Ty	pe: CNC M	illing Machine
Model Number: Impact 2		Serial Number	: I-01430	CBS
Software Revision: 5.02(94)				
Part 4. MARKING PARAMETI	RS			
Drill Bit Material: HSS		Marking Time	(Seconds):	15 minutes
Drill Bit Dia (in): 1/16		Tip Angle:	118°	
Feed Rate (ipm): 1.50		Speed (RPM):	3000	
Part 5. SYMBOL PARAMETE	RS			
Symbol Type: Data Matrix		Number of Ch	aracters:	10
Rows x Columns: 22 x 22		ECC Level:	2	200
Type: Square		Style:	1	Normal
Depth of Mark (in):	0.002	0.004	0.008	0.012
Symbol Size (in):	0.3564	0.5148	0.7722	1.0450
Cell Size (in):	0.0162	0.0234	0.0351	0.0475
Part 6. READER PARAMETER	RS			
Processor: DMx Auto I	D	Camera:	RVSI CI	M4000
Camera Gain: ½ turn CW		Gamma:	1.0, MG	C, FRM
Lens Type: Tamron 701	178	Lens Size:	1:2.8, 50	mm, Ø25.5
Software Version no.: 1.5.0	.20	Trigger Method	l: Manual	
Field Mode (Low Density): No		Frame Mode (H	High Density): Y	res
Depth (in):	0.002	0.004	0.008	0.012
Aperture Setting:	22	22	22	22
Extension Tube (mm):	15	10	5	5
Focus Setting:	0.55	0.8	0.8	1.5
Camera to Target Distance (mm):	170	228	335	417
Symbol Size (Pixels):	383 x 383	368 x 368	347 x 347	363 x 363

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Linginicor. W.	THE RESERVE TO SHARE THE PARTY OF THE PARTY										
Part 7. LIGHTII	NG PARA	METE	RS								
Light manufactur	er: NER				Light t	ype:		DOAL-	75-LF	ED	
Light P/N:	010-2	200500			Light (Color:		Red			
Lighting Angle:	Paral	lel to pa	art surfa	ce	Filter 7	Гуре:		None			
De	pth of Ma	rk (in):	0.0	002	0.	004		0.008		0.01	2
Lighting Distance	e (mm):		64		45		70		9)5	
Part 8. DECOD	ING RES	ULTS									
		Nominal Cell Size	Center Offset	Size Offset	Cell Modulation	Border Match	Contrast	Axial Uniformity	Print Growth (X)	Print Growth (Y)	Error Correction
A1A-17	'										
9524974623	0.002	17.4	0.0	0.0	50	100	51	0	-0.05	-0.06	0
1276607580	0.004	16.7	0.2	0.3	77	100	52	0	-0.19	-0.18	0
4638258921	0.008	15.9	0.0	0.0	78	100	58	0	-0.10	-0.11	0
9610227327	0.012	16.5	0.0	0.0	82	100	63	0	0	0	0
A1A-18											
1787249936	0.002	17.5	5.0	5.8	50	100	53	0	-0.05	-0.08	0
8260488435	0.004	16.8	0.2	0.0	75	100	53	0	-0.12	-0.12	0
2242652223	0.008	15.9	0.0	0.8	85	100	59	0	-0.03	-0.04	0
6779980031	0.012	16.5	0.0	0.0	79	100	64	0	0.02	0.02	0
A1A-19											
1983908122	0.002	17.5	13.4	18.7	47	100	52	0	-0.24	-0.37	0
2526692356	0.004	16.8	0.2	0.0	80	100	54	0	-0.12	-0.14	0
6486358313	0.008	15.9	0.0	0.0	84	100	63	0	-0.11	-0.10	0
4518394282	0.012	16.5	0.2	1.1	78	100	68	0	-0.05	-0.06	0
A1A-20)										
4694896041	0.002	17.5	0.0	0.0	49	100	53	0	0	0	0
2039952643	0.004	16.8	0.2	0.8	79	100	51	0	-0.14	-0.16	0
4401637474	0.008	15.9	0.0	2.3	82	100	61	0	-0.04	-0.04	0
1169583898	0.012	16.6	0.2	1.2	79	100	62	0	0	-0.02	0

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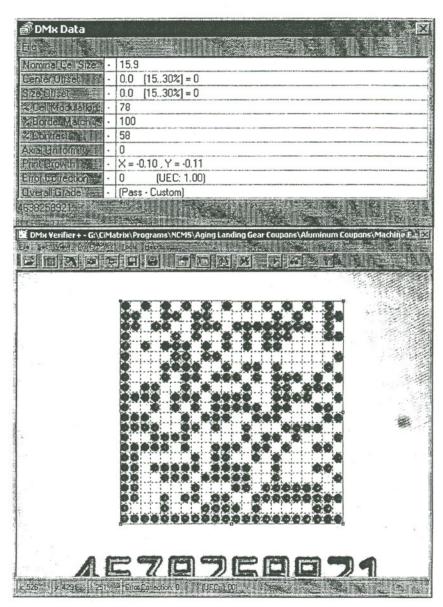
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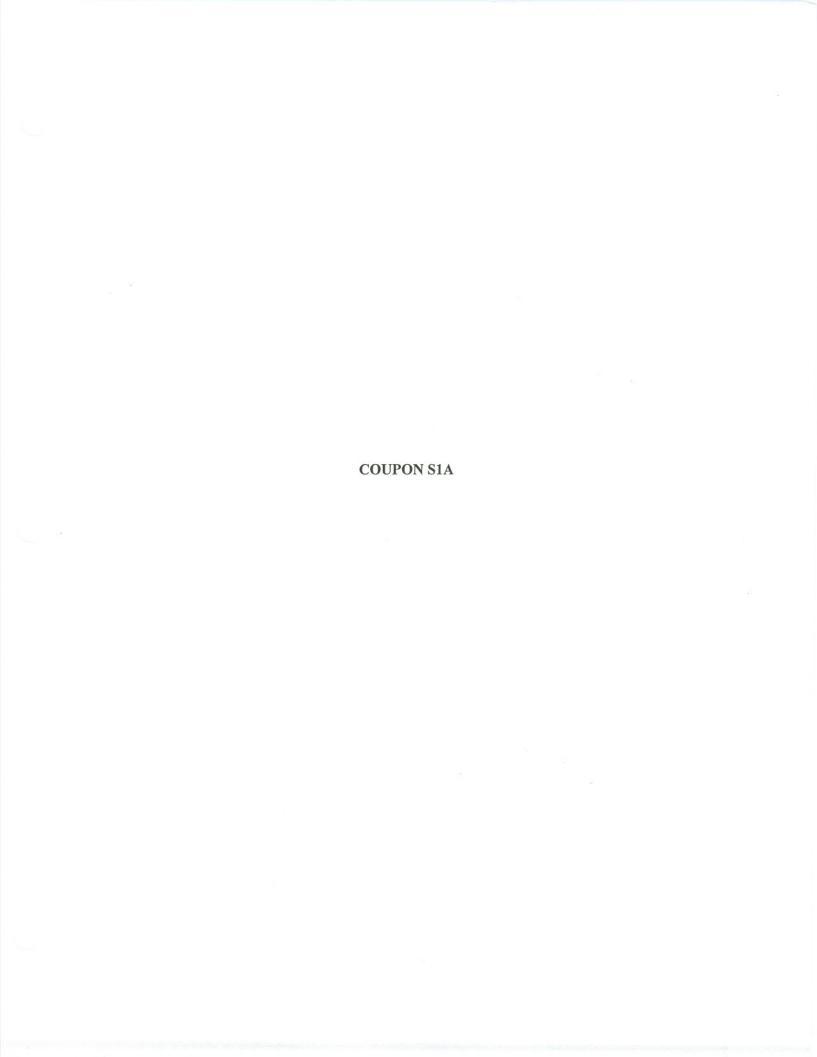
With Ink Jet, Dot Peen and Laser marks (the 3 most often used methods for marking Data Matrix on parts) the two most important aspects to measure are the "normalized" Center Offset and Size Offset values. These measures are made of all the ON cells (those actually marked. vs. the spaces left unmarked) within the borders of the code. The scores are "normalized" because with a Data Matrix code if all cells are shifted the same amount, or are smaller or larger by the same amount, we really don't have to fix anything—most readers will deal with that "scale" change and no marker maintenance is necessary. However, if we have a difference in cell position within the code we have an indication that service is needed (i.e. clogged ink jet nozzles, plugged air pressure filters, worn bushings). The same is true of Size Offset, typically all ON cells of a matrix would be the same size, and a variation in size could indicate, for example, pressure problems on a pin stamp marker and power management or mask problems on a laser.

The addition of these mark analysis parameters, available only on RVSI's verification products, provides effective diagnostics of marking problems. In fact, a number of the leading marking companies are incorporating this technology into their products to guarantee their customer remarkable reliability and consistency in creating good data matrix marks, highlighting service requirements, and identifying corrective actions required to ensure marking excellence. [Note also that RVSI has also developed the only verifier customized to the unique parameters employer by the Aerospace Industry's IAQG in its ATA 2000 Specification.]

RVSI has attacked the identification of parts for traceability and process control as a system problem that requires a system solution. The right marking methods must first be chosen (the SRC has validated over 50 methods of marking parts); the use of Verification after marking to confirm the mark quality is a must (provided the proper measurements are made); application engineering to accommodate the environmental conditions encountered at the read stations, both fixed and hand held, must be taken into consideration (and they should both use the same algorithmic approach to minimize integration); and finally the communication of the data must support the factory environment and traceability needs of the user.

We refer to this system approach as the MVRCsm Methodology (Mark, Verify, Read, and Communicate). It is only available from RVSI

APPENDIX D
COUPON OVERHAUL PROCESS DOCUMENTATION



Aging Landing Gear Life Extension Program

Overhaul Process Data Sheet: Coupon S1A-17

	Process	Date	Witness	
1.	Abrasive Blast per MIL-STD-1504 - Plastic Bead (5X) 60 PSI	12/8/2003	Œ	
2.	Abrasive Blast per MIL-STD-1504 - Glass Bead (5X) 30 PS	12/8/2003	OC	
3.	Abrasive Blast per MIL-STD-1504 - Garnet (5X) 60 PS1	12/8/2003	OC	
4.	Shot Peen per AMS-S-13165 - Mask (5X) 12 ALMEN	12/8/2003	Œ	
5.	Clean STEAM CLEAN / SCOTCH PAD	12/9/2003	QC	

Comments

- ·NO CLOGGING; PLASTIC/GLASS/GARNET
- · ADHESIVE /MASK RESIDNE IN SEVERAL MICRO MILL CELLS
- · CLEAN / SCOTCH PAD REMOVED ADHESIVE / MASK RESIDUE

Overhaul Process Data Sheet: Coupon S1A-18

	Process			Date	Witness
1.	Abrasive Blast per MIL-STD-1504 - Plastic Bead (5X)	60 PS1	12/	3/2003	C
2.	Abrasive Blast per MIL-STD-1504 - Glass Bead (5X)	30PS1	12/	8/2003	De
3.	Abrasive Blast per MIL-STD-1504 - Garnet (5X)	60951	12/	8/2063	OC
4.	Shot Peen per AMS-S-13165 - No Mask (5X)	12 ALMEN	12/	8/2003	WE
5.	Clean STEAM CLEAN / SCOTO	H PAD	12/	9/2003	OC

Comments:

· NO CLOGGING: PLASTIC | GLASS | GARNET | SHOT

Aging Landing Gear Life Extension Program

Overhaul Process Data Sheet: Coupon S1A-19

	Process	Date	Witness	
1.	Abrasive Blast per MIL-STD-1504 – Plastic Bead (5X) 60 PSI	12/8/2003	ac	
2.	Abrasive Blast per MIL-STD-1504 - Glass Bead (5X) 30 PSI	12/8/2003	De	
3.	Abrasive Blast per MIL-STD-1504 - Garnet (5X) 60 PSI	12/8/2003	QC	
4.	Cadmium Plate per MIL-STD-870, Type II, Class 1	12/9/2003	ac	
5.	Within 4 Hours After Cadmium Plate Bake For 24 Hours at 375°F ± 25°F	12/10/2003	OC	
6.	Clean DRY CLOTH	12/11/2003	OC	

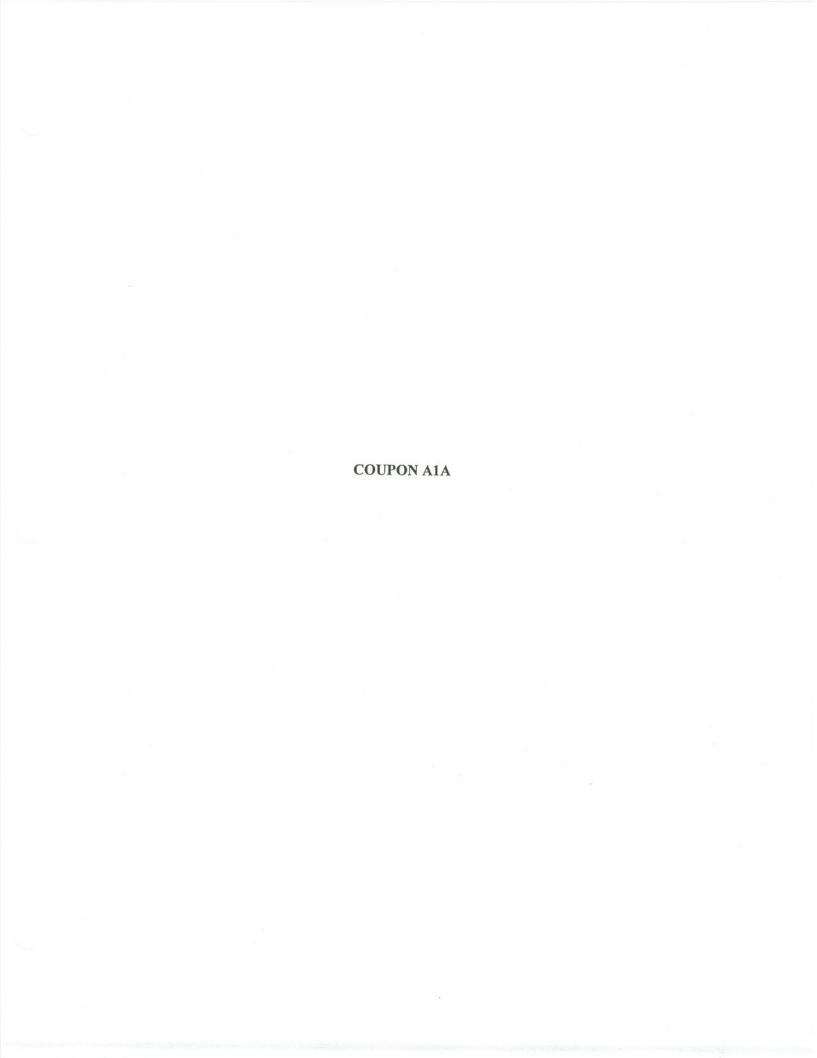
- Comments:
 NO CLOGGING: PLASTIC | GLASS | GARNET
 - · PLATING OBSCURED SEVERAL MARKS

Overhaul Process Data Sheet: Coupon S1A-20

	Process	Date	Witness
1.	Abrasive Blast per MIL-STD-1504 – Plastic Bead (5X) 60 PS	12/8/2003	Œ
2.	Abrasive Blast per MIL-STD-1504 - Glass Bead (5X) 30 PS1	12/8/2003	OC
3.	Abrasive Blast per MIL-STD-1504 – Garnet (5X) 60 PS1	12/8/2003	ac
4.	Cadmium Plate per MIL-STD-870, Type II, Class 1	12/9/2003	OC
5.	Within 4 Hours After Cadmium Plate Bake For 24 Hours at 375°F ± 25°F	12/10/2003	OC
6.	Paint per MIL-STD-7179 One Coat Primer per MIL-P-85582 Type I, Class 2 Two Top Coats per MIL-C-85285, Type I	12/11/2003	OC
7.	Clean DRY CLOTH	12/11/2003	De

Comments:

- · NO CLOGGING: PLASTIC / GLASS / GARNET
- · PLATING AND PAINTING OBSCURED SEVERAL MARKS



Aging Landing Gear Life Extension Program

Overhaul Process Data Sheet: Coupon A1A-17

	Process	Date	Witness
1.	Abrasive Blast per MIL-STD-1504 – Plastic Bead (5X) 60 PSI	12/8/2003	ae
2.	Abrasive Blast per MIL-STD-1504 - Glass Bead (1X) 30 PS/	12/18/2003	DE
3.	Shot Peen per AMS-S-13165 - Mask (5X) 12 ALMEN	12/8/2003	DE
4.	Clean STEAM CLEAN / SCOTCH PAD	12/9/2003	ac

Comments

- · NO CLOGGING: PLASTIC/GLASS
- · ADHESIVE / MASK RESIDUE IN SEVERAL MICRO MILL CELLS
- · CLEAN / SCOTCH PAD REMOVED ADHESIVE / MASK RESIDUE

Overhaul Process Data Sheet: Coupon A1A-18

	Process	Date	Witness
1.	Abrasive Blast per MIL-STD-1504 - Plastic Bead (5X) 60 951	12/8/2003	O.
2.	Abrasive Blast per MIL-STD-1504 - Glass Bead (1X) 30 PS 1	12/8/2003	10C
3.	Shot Peen per AMS-S-13165 - No Mask (5X) 12 ALMEN	12/8/2003	De
4.	Clean STEAM CLEAN / SCOTCH PAD	12/9/2003	OP.

Comments

- · NO CLOGGING: PLASTIC / GLASS / SHOT
- SHOT PEENING DAMAGED SEVERAL MARKS

Aging Landing Gcar Life Extension Program

Overhaul Process Data Sheet: Coupon A1A-19

	Process	Date	Witness	
1.	Abrasive Blast per MIL-STD-1504 - Plastic Bead (5X) 60 PS	1 12/8/2003	a	
2.	Abrasive Blast per MIL-STD-1504 - Glass Bead (1X) 30 PS	12/18/2003	20	
3.	Anodize per MIL-STD-8625, Type II, Class 1	12/9/2003	De	
4.	Clean DRY CLOTH	12/11/2003	96	

Comments: • NO CLOGGING:	PLASTIC GLASS	•

Overhaul Process Data Sheet: Coupon A1A-20

	Process	Date	Witness
1.	Abrasive Blast per MIL-STD-1504 - Plastic Bead (5X) 60 PS	12/8/2003	OC
2.	Abrasive Blast per MIL-STD-1504 - Glass Bead (1X) 30 PS	12/8/2003	OC
3.	Anodize per MIL-STD-8625, Type II, Class 1	12/4/2003	DC
4.	Paint per MIL-STD-7179		
	One Coat Primer per MIL-P-85582 Type I, Class 2		01
	Two Top Coats per MIL-C-85285, Type I	12/11/2003	ge
5.	Clean DRY CLOTH	12/11/2003	OC

- Comments:

 , NO CLOGGING; PLASTIC | GLASS

 , PAINTING OBSCURED SEVERAL MARKS

APPENDIX E
COUPON MARK DECODING SUMMARY DATA



Coupon S1A-17: Before Processing

Process Data: Coupon S1A-17 / 4340 Steel (260ksi UTS) Marked After Heat Treatment

Mark Per Drawing S1A

Scotch Pad Clean

	Vibrope	en: Decodi	ng Data	
Mark 1	Decode	Attempts	Time	Depth
HRM	Yes	6/6	10.2	0.002





Steel Stamp: Decoding Data							
Mark 1	Decode	Attempts	Time	Depth			
HRM	No	4/6	10.2	0.001			





	Deep Laser Engrave: Decoding Data									
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth	
MRM	Yes	6/6	4.2	0.003	MRM	Yes	6/6	4.2	0.005	
HRM	Yes	6/6	10.2	NA	HRM	Yes	6/6	10.2	NA	
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth	
MRM	Yes	6/6	4.2	0.008	MRM	Yes	6/6	4.2	0.012	
HRM	No	5/6	10.2	NA	HRM	Yes	6/6	10.2	NA	

Deep Laser Engrave: Image



	Dot Peen: Decoding Data									
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth	
MRM	Yes	6/6	4.2	0.001	MRM	Yes	6/6	4.2	0.002	
HRM	Yes	6/6	10.2	NA	HRM	Yes	6/6.	10.2	NA	
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth	
MRM	No	0/6	4.2	0.004	MRM	Yes	6/6	4.2	0.006	
HRM	Yes	6/6	10.2	NA	HRM	Yes	6/6	10.2	NA	

Dot Peen: Image



Micro Mill: Decoding Data										
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth	
MRM	Yes	6/6	4.2	0.001	MRM	Yes	2/6	4.2	0.002	
HRM	Yes	6/6	10.2	NA	HRM	Yes	6/6	10.2	NA	
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth	
MRM	No	0/6	4.2	0.006	MRM	No	0/6	4.2	0.011	
HRM	Yes	6/6	10.2	NA	HRM	Yes	6/6	10.2	NA	

Micro Mill: Image



Decode:	MRM - Machine Readable Mark	One Operator with MX	Handheld Reader Database Entry

Successful Decode - Yes: Mark decodes with 1/6 to 6/6 attempts.

Unsuccessful Decode - No: Mark does not decode with 0/6 attempts.

HRM - Human Readable Mark: Three Operators with Two Manual Database Entries

Successful Decode - Yes: Mark data correctly entered into a database with 6/6 attempts.

Unsuccessful Decode - No: Mark data correctly entered into a database with 0/6 to 5/6 attempts.

Attempts: Number of successful decodes in 6 attempts.

Time: Average time to decode the mark.

Depth: Average cell depth based on 3 dial gage measurements.

Mark 1 Mark 2

Mark 3 Mark 4

Coupon S1A-17: After Processing

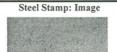
Process Data: Coupon S1A-17 / 4340 Steel (260ksi UTS) Marked After Heat Treatment

- 0 Mark Per Drawing S1A
- 1 Plastic Media Blast Per MIL-STD-1504, 5X / 500% Surface Coverage, 60psi, 6in to 12in Distance
- 2 Glass Media Blast Per MIL-STD-1504, 5X / 500% Surface Coverage, 30psi, 6in to 12in Distance
- 3 Garnet Media Blast Per MIL-STD-1504, 5X / 500% Surface Coverage, 60psi, 6in to 12in Distance
- 4 Shot Peen Per AMS-S-13165, 5X / 500% Surface Coverage with Marks Masked, 12 Almen Intensity
- 5 Steam Clean / Scotch Pad Clean

	Vibrope	en: Decodi	ng Data	
Mark 1	Decode	Attempts	Time	Depth
HRM	Yes	6/6	10.2	0.002

Vibropeen: Image

	Steel Sta	mp: Decod	ing Data	
Mark 1	Decode	Attempts	Time	Depth
HRM	No	5/6	10.2	0.001



			Deep L	aser Engra	ve: Decodi	ng Data			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	Yes	6/6	2.9	0.002	MRM	Yes	6/6	2.9	0.004
HRM	No	4/6	10.2	NA	HRM	Yes	6/6	10.2	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	Yes	6/6	2.9	0.008	MRM	Yes	6/6	2.9	0.012
HRM	Yes	6/6	10.2	NA	HRM	Yes	6/6	10.2	NA



			D	ot Peen: D	ecoding Da	ta			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	Yes	6/6	2.9	0.000	MRM	Yes	6/6	2.9	0.002
HRM	No	5/6	10.2	NA	HRM	Yes	6/6	10.2	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	No	0/6	2.9	0.004	MRM	Yes	6/6	2.9	0.006
HRM	No	5/6	10.2	NA	HRM	Yes	6/6	10.2	NA



			Mi	cro Mill: I	Decoding D	ata			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	No	0/6	2.9	0.001	MRM	Yes	6/6	2.9	0.002
HRM	Yes	6/6	10.2	NA	HRM	Yes	6/6	10.2	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	Yes	6/6	2.9	0.006	MRM	Yes	6/6	2.9	0.010
HRM	Yes	6/6	10.2	NA	HRM	Yes	6/6	10.2	NA



Decode:	MRM - Machine Readable Mark: One Operator with MXi Handheld Reader Database Entry		
	Successful Decode - Yes: Mark decodes with 1/6 to 6/6 attempts.		
	Unsuccessful Decode - No: Mark does not decode with 0/6 attempts.	N-11	36.1.2
	HRM - Human Readable Mark: Three Operators with Two Manual Database Entries	Mark 1	Mark 2
	Successful Decode - Yes: Mark data correctly entered into a database with 6/6 attempts.		
	Unsuccessful Decode - No: Mark data incorrectly entered into a database with 0/6 to 5/6 attempts.		
Attempts:	Number of successful decodes in 6 attempts.	Mark 3	Mark 4
Time:	Average time to decode the mark.	300000000000000000000000000000000000000	
Depth:	Average cell depth based on 3 dial gage measurements.		

Coupon S1A-18: Before Processing

Process Data: Coupon S1A-18 / 4340 Steel (260ksi UTS) Marked After Heat Treatment

0 Mark Per Drawing S1A

Scotch Pad Clean

Vibropeen: Decoding Data							
Mark 1	Decode	Attempts	Time	Depth			
HRM	Yes	6/6	8.6	0.003			

Vibropeen: Image



Mark 1	Decode	Attempts	Time	Depth
HRM	Yes	6/6	8.6	0.000



			Deep L	aser Engra	ve: Decodi	ng Data			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.3	0.003	MRM	Yes '	6/6	3.3	0.005
HRM	Yes	6/6	8.6	NA	HRM	Yes	6/6	8.6	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.3	0.010	MRM	Yes	6/6	3.3	0.013
HRM	Yes	6/6	8.6	NA	HRM	Yes	6/6	8.6	NA

Deep Laser Engrave: Image

DEEP LASER ENGRAVE

1112312000 SIN2PLANE

1112312000 TINEPLANE

			D	ot Peen: D	ecoding Da	ta			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	No	0/6	3.3	0.001	MRM	Yes	6/6	3.3	0.003
HRM	Yes	6/6	8.6	NA	HRM	Yes	6/6	8.6	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.3	0.004	MRM	Yes	6/6	3.3	0.007
HRM	Yes	6/6	8.6	NA	HRM	Yes	6/6	8.6	NA



			Mi	cro Mill: I	Decoding D	ata			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.3	0.001	MRM	No	0/6	3.3	0.003
HRM	Yes	6/6	8.6	NA	HRM	Yes	6/6	8.6	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	No	0/6	3.3	0.007	MRM	No	0/6	3.3	0.012
HRM	Yes	6/6	8.6	NA	HRM	Yes	6/6	8.6	NA

Micro Mill: Image
MICRO MILL 0321447253 7472550000

Successful Decode - Yes: Mark decodes with 1/6 to 6/6 attempts. Unsuccessful Decode - No: Mark does not decode with 0/6 attempts. HRM - Human Readable Mark: Three Operators with Two Manual Database Entries Successful Decode - Yes: Mark data correctly entered into a database with 6/6 attempts. Unsuccessful Decode - No: Mark data incorrectly entered into a database with 0/6 to 5/6 attempts.	ı	Decode:	MRM - Machine Readable Mark: One Operator with MXi Handheld Reader Database Entry	
HRM - Human Readable Mark: Three Operators with Two Manual Database Entries Successful Decode - Yes: Mark data correctly entered into a database with 6/6 attempts.	I		Successful Decode - Yes: Mark decodes with 1/6 to 6/6 attempts.	
Successful Decode - Yes: Mark data correctly entered into a database with 6/6 attempts.	ı		Unsuccessful Decode - No: Mark does not decode with 0/6 attempts.	
	ı		HRM - Human Readable Mark: Three Operators with Two Manual Database Entries	
Unsuccessful Decode - No: Mark data incorrectly entered into a database with 0/6 to 5/6 attempts.	I		Successful Decode - Yes: Mark data correctly entered into a database with 6/6 attempts.	
	I		Unsuccessful Decode - No: Mark data incorrectly entered into a database with 0/6 to 5/6 attempts.	

Attempts: Number of successful decodes in 6 attempts.

Time: Average time to decode the mark.

Depth: Average cell depth based on 3 dial gage measurements.

Mark 1 Mark 2

Mark 3 Mark 4

Coupon S1A-18: After Processing

Process Data: Coupon S1A-18 / 4340 Steel (260ksi UTS) Marked After Heat Treatment

- 0 Mark Per Drawing S1A
- Plastic Media Blast Per MIL-STD-1504, 5X / 500% Surface Coverage, 60psi, 6in to 12in Distance
- 2 Glass Media Blast Per MIL-STD-1504, 5X / 500% Surface Coverage, 30psi, 6in to 12in Distance
- 3 Garnet Media Blast Per MIL-STD-1504, 5X / 500% Surface Coverage, 60psi, 6in to 12in Distance
- Shot Peen Per AMS-S-13165, 5X / 500% Surface Coverage with Marks Unmasked, 12 Almen Intensity
- 5 Steam Clean / Scotch Pad Clean

	Vibropeen: Decoding Data								
Mark 1	Decode	Attempts	Time	Depth					
HRM	Yes	6/6	10.4	0.002					



Steel Stamp: Decoding Data						
Mark 1	Decode	Attempts	Time	Depth		
HRM	Yes	6/6	10.4	0.000		



	Deep Laser Engrave: Decoding Data								
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	Yes	6/6	2.5	0.002	MRM	Yes	6/6	2.5	0.004
HRM	Yes	6/6	10.4	NA	HRM	Yes	6/6	10.4	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	Yes	6/6	2.5	0.008	MRM	Yes	6/6	2.5	0.012
HRM	Yes	6/6	10.4	NA	HRM	No	5/6	10.4	NA



	Dot Peen: Decoding Data								
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	Yes	6/6	2.5	0.000	MRM	Yes	6/6	2.5	0.002
HRM	No	4/6	10.4	NA	HRM	Yes	6/6	10.4	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	Yes	6/6	2.5	0.003	MRM	Yes	6/6	2.5	0.006
HRM	Yes	6/6	10.4	NA	HRM	Yes	6/6	10.4	NA



Micro Mill: Decoding Data									
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	No	0/6	2.5	0.000	MRM	Yes	6/6	2.5	0.003
HRM	Yes	6/6	10.4	NA	HRM	Yes	6/6	10.4	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	Yes	6/6	2.5	0.007	MRM	Yes	6/6	2.5	0.012
HRM	Yes	6/6	10.4	NA	HRM	Yes	6/6	10.4	NA ·

Micro M	fill: Image
MICRO	MYLL
PILORO	IT L LL
	1985
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	FUNTE
FEMALE	
lriff.	
4230403351	7320244897
Market St.	

Decode:	MRM - Machine Readable Mark: One Operator with MXi Handheld Reader Database Entry		
	Successful Decode - Yes: Mark decodes with 1/6 to 6/6 attempts.		
	Unsuccessful Decode - No: Mark does not decode with 0/6 attempts.		Mark 2
	HRM - Human Readable Mark: Three Operators with Two Manual Database Entries	Mark 1	Mark 2
	Successful Decode - Yes: Mark data correctly entered into a database with 6/6 attempts.		
	Unsuccessful Decode - No: Mark data incorrectly entered into a database with 0/6 to 5/6 attempts.		
Attempts:	Number of successful decodes in 6 attempts.	Mark 3	Mark 4
Time:	Average time to decode the mark.		
Depth:	Average cell depth based on 3 dial gage measurements.		

Coupon S1A-19: Before Processing

Process Data: Coupon S1A-19 / 4340 Steel (260ksi UTS) Marked After Heat Treatment

Mark Per Drawing S1A

Scotch Pad Clean

Vibropeen: Decoding Data						
Mark 1	Decode	Attempts	Time	Depth		
HRM	Yes	6/6	9.1	0.002		

Vibropeen: Image



	Steel Sta	mp: Decodi	ing Data	
Mark 1	Decode	Attempts	Time	Depth
Mark 1 HRM	No	4/6	9.1	0.001

Steel Stamp: Image



Deep Laser Engrave: Decoding Data									
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.5	0.002	MRM	Yes	6/6	3.5	0.004
HRM	Yes	6/6	9.1	NA	HRM	Yes	6/6	9.1	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.5	0.009	MRM	Yes	6/6	3.5	0.012
HRM	No	5/6	9.1	NA	HRM	No	5/6	9.1	NA

Deep Laser Engrave: Image



Dot Peen: Decoding Data									
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.5	0.001	MRM	Yes	6/6	3.5	0.002
HRM	Yes	6/6	9.1	NA	HRM	No	5/6	9.1	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.5	0.004	MRM	Yes	6/6	3.5	0.006
HRM	Yes	6/6	9.1	NA	HRM	Yes	6/6	9.1	NA

Dot Peen: Image



Micro Mill: Decoding Data									
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.5	0.001	MRM	Yes	6/6	3.5	0.002
HRM	Yes	6/6	9.1	NA	HRM	Yes	6/6	9.1	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	No	0/6	3.5	0.007	MRM	No	0/6	3.5	0.010
HRM	Yes	6/6	9.1	NA	HRM	Yes	6/6	9.1	NA

Micro Mill: Image MICRO MILL

Decode:	MRM - Machine Readable Mark	One Operator with MXi Handheld Reader Database Entry
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Successful Decode - Yes: Mark decodes with 1/6 to 6/6 attempts.

Unsuccessful Decode - No: Mark does not decode with 0/6 attempts.

HRM - Human Readable Mark: Three Operators with Two Manual Database Entries Successful Decode - Yes: Mark data correctly entered into a database with 6/6 attempts.

Unsuccessful Decode - No: Mark data incorrectly entered into a database with 0/6 to 5/6 attempts.

Attempts: Number of successful decodes in 6 attempts.

Average time to decode the mark.

Depth: Average cell depth based on 3 dial gage measurements. Mark 1 Mark 2

Mark 3 Mark 4

Coupon S1A-19: After Processing

Process Data: Coupon S1A-19 / 4340 Steel (260ksi UTS) Marked After Heat Treatment

- 0 Mark Per Drawing S1A
- 1 Plastic Media Blast Per MIL-STD-1504, 5X / 500% Surface Coverage, 60psi, 6in to 12in Distance
- 2 Glass Media Blast Per MIL-STD-1504, 5X / 500% Surface Coverage, 30psi, 6in to 12in Distance
- 3 Garnet Media Blast Per MIL-STD-1504, 5X / 500% Surface Coverage, 60psi, 6in to 12in Distance
- 4 Cadmium Plate Per MIL-STD-870, Type II, Class 1 / 24 Hour Bake at 375°F
- 5 Dry Cloth Clean

Vibropeen: Decoding Data								
Mark 1	Decode	Attempts	Time	Depth				
HRM	Yes	6/6	12.5	0.003				

Vibropeen: Image									

Steel Stamp: Decoding Data								
Mark 1	Decode	Attempts	Time	Depth				
HRM	No	0/6	12.5	0.000				



			Deep L	aser Engra	ive: Decodi	ng Data			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	No	0/6	3.3	0.002	MRM	No	0/6	3.3	0.003
HRM	Yes	6/6	12.5	NA	HRM	Yes	6/6	12.5	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	No	0/6	3.3	0.009	MRM	No	0/6	3.3	0.013
HRM	Yes	6/6	12.5	NA	HRM	Yes	6/6	12.5	NA



Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	No	0/6	3.3	0.000	MRM	No	0/6	3.3	0.001
HRM	No	0/6	12.5	NA	HRM	Yes	6/6	12.5	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	No	0/6	3.3	0.004	MRM	No	0/6	3.3	0.006
HRM	Yes	6/6	12.5	NA	HRM	Yes	6/6	12.5	NA



Micro Mill: Decoding Data											
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth		
MRM	No	0/6	3.3	0.000	MRM	No	0/6	3.3	0.002		
HRM	No	4/6	12.5	NA	HRM	Yes	6/6	12.5	NA		
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth		
MRM	No	0/6	3.3	0.007	MRM	No	0/6	3.3	0.010		
HRM	Yes	6/6	12.5	NA	HRM	Yes	6/6	12.5	NA		



Decode:	MRM - Machine Readable Mark: One Operator with MXi Handheld Reader Database Entry

Successful Decode - Yes: Mark decodes with 1/6 to 6/6 attempts.

Unsuccessful Decode - No: Mark does not decode with 0/6 attempts.

HRM - Human Readable Mark: Three Operators with Two Manual Database Entries

Successful Decode - Yes: Mark data correctly entered into a database with 6/6 attempts.

Unsuccessful Decode - No: Mark data incorrectly entered into a database with 0/6 to 5/6 attempts.

Attempts: Number of successful decodes in 6 attempts.

Time: Average time to decode the mark.

Depth: Average cell depth based on 3 dial gage measurements.

Mark 1 Mark 2

Mark 3 Mark 4

Coupon S1A-20: Before Processing

Process Data: Coupon S1A-20 / 4340 Steel (260ksi UTS) Marked After Heat Treatment

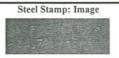
0 Mark Per Drawing S1A

Scotch Pad Clean

Vibropeen: Decoding Data								
Mark 1	Decode	Attempts	Time	Depth				
HRM	Yes	6/6	9.1	0.003				



Steel Stamp: Decoding Data									
Mark 1	Decode	Attempts	Time	Depth					
HRM	Yes	6/6	9.1	0.001					



				Deep L	aser Engra	ve: Decodi	ng Data			
	Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
	MRM	Yes	6/6	4.2	0.003	MRM	Yes	2/6	4.2	0.005
L	HRM	Yes	6/6	9.1	NA	HRM	Yes	6/6	9.1	NA
	Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
ΙГ	MRM	Yes	6/6	4.2	0.010	MRM	Yes	6/6	4.2	0.013
	HRM	Yes	6/6	9.1	NA	HRM	Yes	6/6	9.1	NA
	Mark 3 MRM	Decode Yes	Attempts 6/6	Time 4.2	Depth 0.010	Mark 4 MRM	Decode Yes	Attempts 6/6	Time 4.2	De



			D	ot Peen: D	ecoding Da	ta			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	No	0/6	4.2	0.002	MRM	Yes	6/6	4.2	0.003
HRM	No	4/6	9.1	NA	HRM	Yes	6/6	9.1	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	Yes	6/6	4.2	0.004	MRM	Yes	6/6	4.2	0.006
HRM	Yes	6/6	9.1	NA	HRM	Yes	6/6	9.1	NA



			Mi	cro Mill: I	Decoding D	ata			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	Yes	6/6	4.2	0.002	MRM	Yes	6/6	4.2	0.003
HRM	Yes	6/6	9.1	NA	HRM	Yes	6/6	9.1	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	No	0/6	4.2	0.008	MRM	No	0/6	4.2	0.011
HRM	Yes	6/6	9.1	NA	HRM	Yes	6/6	9.1	NA

Micro Mill: Image							
MICRO	MILL						
0649567964	4665343274 						

Decode:	MRM - Machine Readable Mark: One Operator with MXi Handheld Reader Database Entry		
	Successful Decode - Yes: Mark decodes with 1/6 to 6/6 attempts.		
	Unsuccessful Decode - No: Mark does not decode with 0/6 attempts.		
	HRM - Human Readable Mark: Three Operators with Two Manual Database Entries	Mark 1	Mark 2
	Successful Decode - Yes: Mark data correctly entered into a database with 6/6 attempts.		
	Unsuccessful Decode - No: Mark data incorrectly entered into a database with 0/6 to 5/6 attempts.		
Attempts:	Number of successful decodes in 6 attempts.	Mark 3	Mark 4
Time:	Average time to decode the mark.		
Depth:	Average cell depth based on 3 dial gage measurements.		

Coupon S1A-20: After Processing

Process Data: Coupon S1A-20 / 4340 Steel (260ksi UTS) Marked After Heat Treatment

- 0 Mark Per Drawing S1A
- 1 Plastic Media Blast Per MIL-STD-1504, 5X / 500% Surface Coverage, 60psi, 6in to 12in Distance
- 2 Glass Media Blast Per MIL-STD-1504, 5X / 500% Surface Coverage, 30psi, 6in to 12in Distance
- 3 Garnet Media Blast Per MIL-STD-1504, 5X / 500% Surface Coverage, 60psi, 6in to 12in Distance
- 4 Cadmium Plate Per MIL-STD-870, Type II, Class 1 / 24 Hour Bake at 375°F
- Paint Per MIL-STD-7179: One Coat Primer Per MIL-P-85582, Type 1, Class 2 / Two Top Coats Per MIL-C-85285, Type 1
- 6 Dry Cloth Clean

Depth:

Average cell depth based on 3 dial gage measurements.

	Vibrope	en: Decodi	ng Data	
Mark 1	Decode	Attempts	Time	Depth
HRM	No	2/6	12.9	0.002

Vibropeen: Image

Steel Stamp: Decoding Data								
Mark 1	Decode	Attempts	Time	Depth				
HRM	No	1/6	12.9	0.000				

Steel Stamp: Image

Γ	Deep Laser Engrave: Decoding Data											
ı	Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth		
ı	MRM	No	0/6	3.3	0.001	MRM	No	0/6	3.3	0.002		
ı	HRM	Yes	6/6	12.9	NA	HRM	Yes	6/6	12.9	NA		
ı	Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth		
ı	MRM	No	0/6	3.3	0.006	MRM	No	0/6	3.3	0.010		
ı	HRM	No	5/6	12.9	NA	HRM	Yes	6/6	12.9	NA		

Deep Laser Engrave: Image



			D	ot Peen: D	ecoding Da	ta			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	No	0/6	3.3	0.000	MRM	No	0/6	3.3	0.000
HRM	No	0/6	12.9	NA	HRM	Yes	6/6	12.9	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	No	0/6	3.3	0.001	MRM	No	0/6	3.3	0.001
HRM	Yes	6/6	12.9	NA	HRM	Yes	6/6	12.9	NA

Dot Peen: Image

		IVII	cro Mill: L	ecoding D	ata			
Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
No	0/6	3.3	0.000	MRM	No	0/6	3.3	0.002
No	5/6	12.9	NA	HRM	Yes	6/6	12.9	NA
Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
No	0/6	3.3	0.004	MRM	No	0/6	3.3	0.007
Yes	6/6	12.9	NA	HRM	No	4/6	12.9	NA
	No No Decode No	No 0/6 No 5/6 Decode Attempts No 0/6	Decode Attempts Time No 0/6 3.3 No 5/6 12.9 Decode Attempts Time No 0/6 3.3	Decode Attempts Time Depth No 0/6 3.3 0.000 No 5/6 12.9 NA Decode Attempts Time Depth No 0/6 3.3 0.004	Decode Attempts Time Depth Mark 2 No 0/6 3.3 0.000 MRM No 5/6 12.9 NA HRM Decode Attempts Time Depth Mark 4 No 0/6 3.3 0.004 MRM	No 0/6 No 3.3 0.000 MRM Mo No MRM Yes Decode Attempts No Time Depth No Mark 4 Decode MRM No	Decode Attempts Time Depth Mark 2 Decode Attempts No 0/6 3.3 0.000 MRM No 0/6 No 5/6 12.9 NA HRM Yes 6/6 Decode Attempts Time Depth Mark 4 Decode Attempts No 0/6 3.3 0.004 MRM No 0/6	Decode Attempts Time Depth Mark 2 Decode Attempts Time No 0/6 3.3 0.000 MRM No 0/6 3.3 No 5/6 12.9 NA HRM Yes 6/6 12.9 Decode Attempts Time Depth Mark 4 Decode Attempts Time No 0/6 3.3 0.004 MRM No 0/6 3.3

Micro Mill: Image

Ξ					
I	Decode:	MRM - Machine Readable Mark: One Operator with MXi Handheld Reader Database Entry			1
I		Successful Decode - Yes: Mark decodes with 1/6 to 6/6 attempts.			
ı		Unsuccessful Decode - No: Mark does not decode with 0/6 attempts.	36.11	36 10	1
١		HRM - Human Readable Mark: Three Operators with Two Manual Database Entries	Mark 1	Mark 2	1
I		Successful Decode - Yes: Mark data correctly entered into a database with 6/6 attempts.			
I		Unsuccessful Decode - No: Mark data incorrectly entered into a database with 0/6 to 5/6 attempts.			
I	Attempts:	Number of successful decodes in 6 attempts.	Mark 3	Mark 4	
١	Time:	Average time to decode the mark.			



Coupon A1A-17: Before Processing

Process Data: Coupon A1A-17 / 7075-T73 Aluminum Marked After Heat Treatment

- 0 Mark Per Drawing A1A
- Scotch Pad Clean

Vibropeen: Decoding Data									
Mark 1	Decode	Attempts	Time	Depth					
HRM	Yes	6/6	10.0	0.006					

Vibropeen: Image

VIBROPEEN 7052861758

	Steel Stamp: Decoding Data									
Mark 1	Decode	Attempts	Time	Depth						
HRM	Yes	6/6	10.0	0.008						

Steel Stamp: Image STEEL STAMP 2137359451

	Deep Laser Engrave: Decoding Data												
	Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth			
	MRM	Yes	6/6	3.3	0.002	MRM	Yes	6/6	3.3	0.003			
L	HRM	Yes	6/6	10.0	NA	HRM	Yes	6/6	10.0	NA			
	Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth			
П	MRM	Yes	6/6	3.3	0.007	MRM	Yes	6/6	3.3	0.012			
	HRM	Yes	6/6	10.0	NA	HRM	Yes	6/6	10.0	NA			

Deep Laser Engrave: Image

DEEP LASER ENGRAVE









			Do	t Peen: De	coding Dat	а			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.3	0.001	MRM	Yes	6/6	3.3	0.003
HRM	Yes	6/6	10.0	NA	HRM	Yes	6/6	10.0	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	Yes	4/6	3.3	0.007	MRM	Yes	6/6	3.3	0.010
HRM	Yes	6/6	10.0	NA	HRM	Yes	6/6	10.0	NA

9638709263
9638709263
9638709263

			Mic	ro Mill: D	ecoding Da	ta			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.3	0.002	MRM	Yes	6/6	3.3	0.003
HRM	Yes	6/6	10.0	NA	HRM	Yes	6/6	10.0	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	Yes	4/6	3.3	0.007	MRM	Yes	4/6	3.3	0.011
HRM	Yes	6/6	10.0	NA	HRM	No	5/6	10.0	NA

Micro Mill: Image

MICRO HILL

1324974521 1276607580

Decode: MRM - Machine Readable Mark: One Operator with MXi Handheld Reader Database Entry
Successful Decode - Yes: Mark decodes with 1/6 to 6/6 attempts.

Unsuccessful Decode - No: Mark does not decode with 0/6 attempts.

HRM - Human Readable Mark: Three Operators with Two Manual Database Entries Successful Decode - Yes: Mark data correctly entered into a database with 6/6 attempts. Unsuccessful Decode - No: Mark data incorrectly entered into a database with 0/6 to 5/6 attempts.

Attempts: Number of successful decodes in 6 attempts.

Time: Average time to decode the mark.

Depth: Average cell depth based on 3 dial gage measurements.

Mark 1 Mark 2

Mark 3 Mark 4

Coupon A1A-17: After Processing

Process Data: Coupon A1A-17 / 7075-T73 Aluminum Marked After Heat Treatment

- 0 Mark Per Drawing A1A
- 1 Plastic Media Blast Per MIL-STD-1504, 5X / 500% Surface Coverage, 60psi, 6in to 12in Distance
- 2 Glass Media Blast Per MIL-STD-1504, 1X / 100% Surface Coverage, 30psi, 6in to 12in Distance
- 3 Shot Peen Per AMS-S-13165, 5X / 500% Surface Coverage with Marks Masked, 12 Almen Intensity
- Steam Clean / Scotch Pad Clean

	Vibrope	en: Decodin	g Data	
Mark 1	Decode	Attempts	Time	Depth
HRM	Yes	6/6	10.0	0.006

Vibropeen: Image
Vieworkern
Tox2841783

	Steel Star	np: Decodii	ng Data	
Mark 1	Decode	Attempts	Time	Depth
HRM	Yes	6/6	10.0	0.008

Steel Stamp: Image STEEL STAVP 9137359451

			Deep La	ser Engra	ve: Decodin	ng Data			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.8	0.002	MRM	Yes	6/6	3.8	0.003
HRM	Yes	6/6	10.0	NA	HRM	Yes	6/6	10.0	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.8	0.006	MRM	Yes	6/6	3.8	0.010
HRM	Yes	6/6	10.0	NA	HRM	Yes	6/6	10.0	NA



				Do	t Peen: De	coding Dat	a			
	Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
П	MRM	Yes	6/6	3.8	0.000	MRM	Yes	6/6	3.8	0.003
П	HRM	Yes	6/6	10.0	NA	HRM	Yes	6/6	10.0	NA
П	Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
П	MRM	Yes	6/6	3.8	0.006	MRM	Yes	6/6	3.8	0.011
П	HRM	Yes	6/6	10.0	NA	HRM	Yes	6/6	10.0	NA

Dot Peen: Image

DOT PEEN

9636703255

14393725

14493725

14608240031

0306010914

			Mic	ro Mill: D	ecoding Da	ta			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.8	0.002	MRM	Yes	6/6	3.8	0.003
HRM	Yes	6/6	10.0	NA	HRM	Yes	6/6	10.0	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.8	0.008	MRM	Yes	6/6	3.8	0.012
HRM	Yes	6/6	10.0	NA	HRM	Yes	6/6	10.0	NA

Decode:	MRM - Machine Readable Mark: One Operator with MXi Handheld Reader Database Entry		
	Successful Decode - Yes: Mark decodes with 1/6 to 6/6 attempts.		
	Unsuccessful Decode - No: Mark does not decode with 0/6 attempts.		34 10
l	HRM - Human Readable Mark: Three Operators with Two Manual Database Entries	Mark 1	Mark 2
l	Successful Decode - Yes: Mark data correctly entered into a database with 6/6 attempts.		
l	Unsuccessful Decode - No: Mark data incorrectly entered into a database with 0/6 to 5/6 attempts.		
Attempts:	Number of successful decodes in 6 attempts.	Mark 3	Mark 4
Time:	Average time to decode the mark.		
Depth:	Average cell depth based on 3 dial gage measurements.		

Coupon A1A-18: Before Processing

Process Data: Coupon A1A-18 / 7075-T73 Aluminum Marked After Heat Treatment 0 Mark Per Drawing A1A

- Scotch Pad Clean

	Vibrope	en: Decodin	g Data	
Mark 1	Decode	Attempts	Time	Depth
HRM	Yes	6/6	10.2	0.004

Vibropeen: Image VIOROPEEN 8728114578

	Steel Star	np: Decodin	ng Data	
Mark 1	Decode	Attempts	Time	Depth
HRM	Yes	6/6	10.2	0.008

Steel Stamp: Image SPEEL STAMP 5529709684

				Deep La	ser Engra	e: Decodin	ig Data			
Γ	Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
Γ	MRM	Yes	6/6	2.9	0.001	MRM	Yes	6/6	2.9	0.003
L	HRM	Yes	6/6	10.2	NA	HRM	Yes	6/6	10.2	NA
Г	Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
Г	MRM	Yes	6/6	2.9	0.007	MRM	Yes	6/6	2.9	0.011
	HRM	Yes	6/6	10.2	NA	HRM	Yes	6/6	10.2	NA
_										

Deep Laser Engrave: Image DEEP LASER ENGRAVE





Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	Yes	6/6	2.9	0.001	MRM	Yes	6/6	2.9	0.002
HRM	Yes	6/6	10.2	NA	HRM	Yes	6/6	10.2	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	Yes	6/6	2.9	0.007	MRM	Yes	6/6	2.9	0.011
HRM	Yes	6/6	10.2	NA	HRM	Yes	6/6	10.2	NA



			Mic	ro Mill: D	ecoding Da	ita			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	Yes	6/6	2.9	0.002	MRM	Yes	6/6	2.9	0.004
HRM	Yes	6/6	10.2	NA	HRM	Yes	6/6	10.2	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	Yes	6/6	2.9	0.008	MRM	Yes	4/6	2.9	0.013
HRM	Yes	6/6	10.2	NA	HRM	No	5/6	10.2	NA

l: Image
HILL
122
0260400435
DANK
6779988631

Decode:	MRM - Machine Readable Mark: One Operator with MXi Handheld Reader Database Entry		
	Successful Decode - Yes: Mark decodes with 1/6 to 6/6 attempts.		
	Unsuccessful Decode - No: Mark does not decode with 0/6 attempts.	Mark 1	Mark 2
	HRM - Human Readable Mark: Three Operators with Two Manual Database Entries	Mark 1	Mark 2
	Successful Decode - Yes: Mark data correctly entered into a database with 6/6 attempts.		
	Unsuccessful Decode - No: Mark data incorrectly entered into a database with 0/6 to 5/6 attempts.		
Attempts:	Number of successful decodes in 6 attempts.	Mark 3	Mark 4
Time:	Average time to decode the mark.		
Depth:	Average cell depth based on 3 dial gage measurements.		

Coupon A1A-18: After Processing

Process Data: Coupon A1A-18 / 7075-T73 Aluminum Marked After Heat Treatment

- Mark Per Drawing A1A
- Plastic Media Blast Per MIL-STD-1504, 5X / 500% Surface Coverage, 60psi, 6in to 12in Distance
- 2
- Glass Media Blast Per MIL-STD-1504, 1X / 100% Surface Coverage, 30psi, 6in to 12in Distance Shot Peen Per AMS-S-13165, 5X / 500% Surface Coverage with Marks Unmasked, 12 Almen Intensity
- Steam Clean / Scotch Pad Clean

	Vibrope	en: Decodin	g Data	
Mark 1	Decode	Attempts	Time	Depth
HRM	No	0/6	3.0	0.001



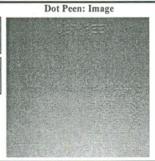
*	Steel Star	np: Decodii	ng Data	
Mark 1	Decode	Attempts	Time	Depth
HRM	No	0/6	3.0	0.004



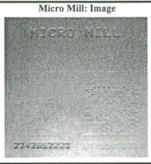
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	No	0/6	3.3	0.000	MRM	No	0/6	3.3	0.001
HRM	No	0/6	3.0	NA	HRM	No	0/6	3.0	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	No	0/6	3.3	0.004	MRM	No	0/6	3.3	0.004
HRM	No	0/6	3.0	NA	HRM	No	0/6	3.0	NA



Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	No	0/6	3.3	0.000	MRM	No	0/6	3.3	0.000
HRM	No	0/6	3.0	NA	HRM	No	0/6	3.0	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	No	0/6	3.3	0.000	MRM	No	0/6	3.3	0.003
HRM	No	0/6	3.0	NA	HRM	No	0/6	3.0	NA



			Mic	ro Mill: D	ecoding Da	ta			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	No	0/6	3.3	0.000	MRM	No	0/6	3.3	0.000
HRM	No	0/6	3.0	NA	HRM	No	0/6	3.0	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	No	0/6	3.3	0.003	MRM	No	0/6	3.3	0.006
HRM	No	1/6	3.0	NA	HRM	No	0/6	3.0	NA



Decode:	MRM - Machine Readable Mark: One Operator with MXi Handheld Reader Database Entry		
l	Successful Decode - Yes: Mark decodes with 1/6 to 6/6 attempts.		
1	Unsuccessful Decode - No: Mark does not decode with 0/6 attempts.	Monto	Manda 2
1	HRM - Human Readable Mark: Three Operators with Two Manual Database Entries	Mark 1	Mark 2
1	Successful Decode - Yes: Mark data correctly entered into a database with 6/6 attempts.		
l	Unsuccessful Decode - No: Mark data incorrectly entered into a database with 0/6 to 5/6 attempts.		
Attempts:	Number of successful decodes in 6 attempts.	Mark 3	Mark 4
Time:	Average time to decode the mark.		
Depth:	Average cell depth based on 3 dial gage measurements.		

Coupon A1A-19: Before Processing

Process Data: Coupon A1A-19 / 7075-T73 Aluminum Marked After Heat Treatment

Mark Per Drawing A1A

Scotch Pad Clean

	Vibrope	en: Decodin	g Data	
Mark 1	Decode	Attempts	Time	Depth
HRM	Yes	6/6	10.2	0.007

Vibropeen: Image

VIBROPEEN 3647679951

	Steel Star	np: Decodii	ng Data	
Mark 1	Decode	Attempts	Time	Depth
HRM	Yes	6/6	10.2	0.009

Steel Stamp: Image

STEEL STAMP 6095147893

				Deep La	ser Engra	ve: Decodir	ig Data			
	Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
ſ	MRM	Yes	6/6	3.3	0.002	MRM	Yes	6/6	3.3	0.003
L	HRM	Yes	6/6	10.2	NA	HRM	Yes	6/6	10.2	NA
	Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
ſ	MRM	Yes	6/6	3.3	0.007	MRM	Yes	6/6	3.3	0.012
L	HRM	Yes	6/6	10.2	NA	HRM	Yes	6/6	10.2	NA

Deep Laser Engrave: Image DEEP LASER ENGRAVE











			Do	t Peen: De	coding Dat	a			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.3	0.001	MRM	Yes	6/6	3.3	0.002
HRM	Yes	6/6	10.2	NA	HRM	Yes	6/6	10.2	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.3	0.008	MRM	Yes	2/6	3.3	0.012
HRM	No	5/6	10.2	NA	HRM	Yes	6/6	10.2	NA

Dot Peen: Image



7481103274

			Mic	ro Mill: D	ecoding Da	ta			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.3	0.002	MRM	Yes	6/6	3.3	0.004
HRM	Yes	6/6	10.2	NA	HRM	Yes	6/6	10.2	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.3	0.007	MRM	Yes	4/6	3.3	0.012
HRM	Yes	6/6	10.2	NA	HRM	Yes	6/6	10.2	NA

Micro Mill: Image



MRM - Machine Readable Mark: One Operator with MXi Handheld Reader Database Entry Decode:

Successful Decode - Yes: Mark decodes with 1/6 to 6/6 attempts.

Unsuccessful Decode - No: Mark does not decode with 0/6 attempts.

HRM - Human Readable Mark: Three Operators with Two Manual Database Entries Successful Decode - Yes: Mark data correctly entered into a database with 6/6 attempts.

Unsuccessful Decode - No: Mark data incorrectly entered into a database with 0/6 to 5/6 attempts.

Attempts: Number of successful decodes in 6 attempts.

Time: Average time to decode the mark

Depth: Average cell depth based on 3 dial gage measurements. Mark 1 Mark 2

Mark 3

Mark 4

Coupon A1A-19: After Processing

Process Data: Coupon A1A-19 / 7075-T73 Aluminum Marked After Heat Treatment

- Mark Per Drawing A1A
- Plastic Media Blast Per MIL-STD-1504, 5X / 500% Surface Coverage, 60psi, 6in to 12in Distance
- Glass Media Blast Per MIL-STD-1504, 1X / 100% Surface Coverage, 30psi, 6in to 12in Distance 2
- Anodize Per MIL-STD-8625, Type II, Class 1 3
- Dry Cloth Clean

	Vibrope	en: Decodin	g Data	
Mark 1	Decode	Attempts	Time	Depth
HRM	Yes	6/6	11.4	0.005

Vibropeen: Image VIBROPEEN 3847679457

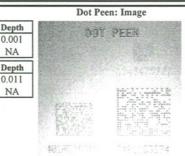
	Steel Stamp: Decoding Data									
Mark 1	Decode	Attempts	Time	Depth						
HRM	Yes	6/6	11.4	0.008						

Steel Stamp: Image STEEL STAR 6095147823

			Deep La	ser Engrav	e: Decodir	g Data			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.5	0.002	MRM	Yes	6/6	3.5	0.003
HRM	No	4/6	11.4	NA	HRM	Yes	6/6	11.4	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.5	0.006	MRM	Yes	6/6	3.5	0.011
HRM	Yes	6/6	11.4	NA	HRM	Yes	6/6	11.4	NA



			Do	t Peen: De	coding Dat	a			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	No	0/6	3.5	0.000	MRM	Yes	6/6	3.5	0.001
HRM	Yes	6/6	11.4	NA	HRM	Yes	6/6	11.4	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.5	0.005	MRM	Yes	6/6	3.5	0.011
HRM	Yes	6/6	11.4	NA	HRM	Yes	6/6	11.4	NA



				Mic	ro Mill: D	ecoding Da	ta			
	Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
	MRM	Yes	6/6	3.5	0.002	MRM	Yes	6/6	3.5	0.004
l	HRM	Yes	6/6	11.4	NA	HRM	Yes	6/6	11.4	NA
	Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
П	MRM	Yes	6/6	3.5	0.008	MRM	Yes	6/6	3.5	0.011
H	HRM	Yes	6/6	11.4	NA	HRM	Yes	6/6	11.4	NA

Micro Mill: Image MICRO MILL

Decode:	MRM - Machine Readable Mark: One Operator with MXi Handheld Reader Database Entry		
	Successful Decode - Yes: Mark decodes with 1/6 to 6/6 attempts.		
	Unsuccessful Decode - No: Mark does not decode with 0/6 attempts.		
	HRM - Human Readable Mark: Three Operators with Two Manual Database Entries	Mark 1	Mark 2
	Successful Decode - Yes: Mark data correctly entered into a database with 6/6 attempts.		
	Unsuccessful Decode - No: Mark data incorrectly entered into a database with 0/6 to 5/6 attempts.		
Attempts:	Number of successful decodes in 6 attempts.	Mark 3	Mark 4
Time:	Average time to decode the mark.		
Depth:	Average cell depth based on 3 dial gage measurements.		

Coupon A1A-20: Before Processing

Process Data: Coupon A1A-20 / 7075-T73 Aluminum Marked After Heat Treatment

- Mark Per Drawing A1A Scotch Pad Clean

	Vibrope	en: Decodin	g Data	
Mark 1	Decode	Attempts	Time	Depth
HRM	Yes	6/6	10.0	0.006

Vibropeen: Image

VIBROPEEN 42,04867453

		Steel Star	np: Decodii	ng Data	
Mark	1	Decode	Attempts	Time	Depth
HRM		Yes	6/6	10.0	0.010

Steel Stamp: Image STEEL STANF 99W997044

			Deep La	ser Engra	e: Decodin	g Data			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.7	0.002	MRM	Yes	6/6	3.7	0.003
HRM	Yes	6/6	10.0	NA	HRM	No	5/6	10.0	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.7	0.007	MRM	Yes	6/6	3.7	0.012
HRM	Yes	6/6	10.0	NA	HRM	Yes	6/6	10.0	NA

Deep Laser Engrave: Image DEEP LASER ENGRAVE





_				Do	t Peen: De	coding Dat	a			
	Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
	MRM	Yes	4/6	3.7	0.001	MRM	Yes	6/6	3.7	0.004
l	HRM	Yes	6/6	10.0	NA	HRM	Yes	6/6	10.0	NA
	Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
П	MRM	Yes	6/6	3.7	0.007	MRM	Yes	2/6	3.7	0.013
Ц	HRM	Yes	6/6	10.0	NA	HRM	Yes	6/6	10.0	NA



			Mic	ro Mill: D	ecoding Da	ta			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	Yes	6/6	3.7	0.002	MRM	Yes	6/6	3.7	0.003
HRM	Yes	6/6	10.0	NA	HRM	Yes	6/6	10.0	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	Yes	4/6	3.7	0.007	MRM	Yes	4/6	3.7	0.011
HRM	Yes	6/6	10.0	NA	HRM	Yes	6/6	10.0	NA

Micro M	ill: Image
HICRO	WILL
3694896041	2019952643
The state of the s	
4401537474	11699NIB98

Decode:	MRM - Machine Readable Mark: One Operator with MXi Handheld Reader Database Entry		
	Successful Decode - Yes: Mark decodes with 1/6 to 6/6 attempts.		
1	Unsuccessful Decode - No: Mark does not decode with 0/6 attempts.	34.11	36-1-2
1	HRM - Human Readable Mark: Three Operators with Two Manual Database Entries	Mark 1	Mark 2
	Successful Decode - Yes: Mark data correctly entered into a database with 6/6 attempts.		
	Unsuccessful Decode - No: Mark data incorrectly entered into a database with 0/6 to 5/6 attempts.		
Attempts:	Number of successful decodes in 6 attempts.	Mark 3	Mark 4
Time:	Average time to decode the mark.		
Depth:	Average cell depth based on 3 dial gage measurements.		

Coupon A1A-20: After Processing

Process Data: Coupon A1A-20 / 7075-T73 Aluminum Marked After Heat Treatment

- Mark Per Drawing A1A
- Plastic Media Blast Per MIL-STD-1504, 5X / 500% Surface Coverage, 60psi, 6in to 12in Distance Glass Media Blast Per MIL-STD-1504, 1X / 100% Surface Coverage, 30psi, 6in to 12in Distance
- 3 Anodize Per MIL-STD-8625, Type II, Class 1
- Paint Per MIL-STD-7179: One Coat Primer Per MIL-P-85582, Type 1, Class 2 / Two Top Coats Per MIL-C-85285, Type 1
- Dry Cloth Clean

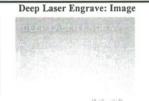
	Vibrope	en: Decodin	g Data	
Mark 1	Decode	Attempts	Time	Depth
HRM	No	4/6	11.6	0.001

Vibropeen	: Image
	Section 1

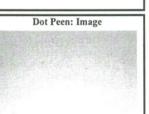
Steel Stamp: Decoding Data								
Mark 1	Decode	Attempts	Time	Depth				
HRM	No	5/6	11.6	0.004				



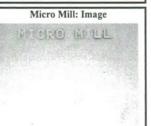
			Deep La	ser Engrav	e: Decodin	ig Data			
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth
MRM	No	0/6	3.1	0.001	MRM	No	0/6	3.1	0.002
HRM	No	4/6	11.6	NA	HRM	Yes	6/6	11.6	NA
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth
MRM	No	0/6	3.1	0.003	MRM	No	0/6	3.1	0.006
HRM	Yes	6/6	11.6	NA	HRM	No	5/6	11.6	NA



	Dot Peen: Decoding Data										
Г	Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth	
Г	MRM	No	0/6	3.1	0.000	MRM	No	0/6	3.1	0.000	
L	HRM	No	0/6	11.6	NA	HRM	No	5/6	11.6	NA	
Г	Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth	
Г	MRM	No	0/6	3.1	0.001	MRM	No	0/6	3.1	0.004	
	HRM	Yes	6/6	11.6	NA	HRM	Yes	6/6	11.6	NA	



	Micro Mill: Decoding Data										
Mark 1	Decode	Attempts	Time	Depth	Mark 2	Decode	Attempts	Time	Depth		
MRM	No	0/6	3.1	0.000	MRM	No	0/6	3.1	0.001		
HRM	No	3/6	11.6	NA	HRM	Yes	6/6	11.6	NA		
Mark 3	Decode	Attempts	Time	Depth	Mark 4	Decode	Attempts	Time	Depth		
MRM	No	0/6	3.1	0.003	MRM	No	0/6	3.1	0.005		
HRM	No	4/6	11.6	NA	HRM	Yes	6/6	11.6	NA		



13:41: 4**9**

Decode:	MRM - Machine Readable Mark: One Operator with MXi Handheld Reader Database Entry			
1	Successful Decode - Yes: Mark decodes with 1/6 to 6/6 attempts.			
I	Unsuccessful Decode - No: Mark does not decode with 0/6 attempts.	Maril 1	M1-2	
1	HRM - Human Readable Mark: Three Operators with Two Manual Database Entries	Mark 1	Mark 2	
1	Successful Decode - Yes: Mark data correctly entered into a database with 6/6 attempts.			
1	Unsuccessful Decode - No: Mark data incorrectly entered into a database with 0/6 to 5/6 attempts.			
Attempts:	Number of successful decodes in 6 attempts.	Mark 3	Mark 4	
Time:	Average time to decode the mark.			
Depth:	Average cell depth based on 3 dial gage measurements.			